Refuges - Division of Natural Resources

Cooperative Recovery Initiative (CRI) Project Updates *August 2016*

Roseate Tern Breeding Habitat

North Atlantic roseate terns must overcome predators, habitat loss and disturbance during breeding to survive. Six National Wildlife Refuges, Ecological Services, state agencies and NGOs have partnered to reduce these risks in 5 states. Highlighted project accomplishments:

- ME: Improved nesting by reducing invasive wild radish by 75-90%; lessened threat of predation by reduced breeding Laughing Gulls by 37%.
- NH: Improved nesting by decreasing tall grasses and brambles through a prescribed burn; birds nested in burnt area.
- MA: Successful establishment of >2000 seaside goldenrod plants and native grasses.
- CT: 71% increase in nesting pairs by rearrangement of nest boxes and removal of invasive plants.
- NY: 92 nesting terraces and >800 nesting cavities increased nesting pairs to 1,849.
- An education campaign resulting in contacts with approximately 9,600 people, a coloring book, and new signage.

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Return of Big River Endangered Freshwater Mussels to the Ohio River Island NWR

Over 80 freshwater mussel species once covered the river bottoms of the Ohio River mainstem and 17 are now federally endangered. Four of these endangered mussels will be returned, thanks to dozens of cooperators and CRI funding. The project is establishing up to four populations of the clubshell, orange-foot pimpleback, spectaclecase and purple cat's paw in their historical ranges within the 365-mile reach of the Ohio River Islands NWR. Together, 15 cooperators have:

- Established 5 new populations of the clubshell, with 3675 tagged mussels stocked in their historic range.
- Successfully raised 3 different year classes of the purple cat's paw mussel in preparation for eventual stocking.
- Aggregated over 50 individuals of the orange-foot pimpleback in the wild to improve fertilization success.
- Tested in vitro propagation with the spectaclecase mussel, to bypass a fish host.

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Karner Blue Butterfly

The only New England population of the endangered Karner blue butterfly (KBB) disappeared from Concord, NH by 2000. Habitat restoration and a captive rearing program have revived a wild population of KBB in the Merrimack Recovery Unit. The population reached a peak population of 2,442 in 2010, spread across 6 distinct subpopulations within the City of Concord. This project will restore 2-3 subpopulations on Great Bay NWR to help reach the recovery goal of a self-sustaining population. The project team has:

- Improved habitat on 130 acres through prescribed burns and removal of trees, shrubs and fences.
- Worked with 250 students of Concord to grow >500 native lupine plants and transplant them and > 100 nectar plants, annually.
- Released over 750 adult butterflies from the captive rearing facility.
- Evaluated habitat conditions by conducting lupine surveys and pre-management vegetation monitoring, along with butterfly mark recapture surveys to build population models.

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Puritan Tiger Beetle Habitat Enhancement and Population Stabilization in the Connecticut River Watershed

The New England population of the threatened Puritan tiger beetle is found solely on the shores of the Connecticut River within the Silvio O. Conte NFWR and in close proximity to Stewart B. McKinney NWR. Range-wide population declines have occurred due to dams that have reduced the frequency and magnitude of natural floods, altered low flow periods, and have inundated previously occupied shoreline habitat. This project will establish at least two new populations to meet recovery criteria. The project team has:

- Increased sunlight on approximately 0.5 acres of suitable sandy beach habitat by removing debris and controlling vegetation encroachment at 3 sites along the Connecticut River.
- Built a captive rearing lab at the Richard Cronin Aquatic Resource Center.
- Collected 67 adult tiger beetles for captive rearing of eggs and larvae.
- Reared >150 eggs in the captive rearing lab.
- Translocated >50 captive reared larvae to restoration sites.

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Red-cockaded Woodpecker Reintroduction

The endangered red-cockaded woodpecker was once common throughout the pinelands of the southeastern U.S. As their mature pine forest habitat was altered for timber harvest and agriculture, just one percent of the longleaf pines survived, and the species began to disappear. The northernmost population (14 breeding pairs) has survived at The Nature Conservancy's Piney Grove Preserve in Sussex County, Virginia. This project aims to reintroduce the woodpecker to Great Dismal Swamp NWR, where they have not been seen since 1974. Working in collaboration with a number of partners, the project team has:

- Installed 32 artificial cavities aggregated into 8 cluster sites with 4 cavity trees.
- Captured and released 8 subadults to the new sites in October of 2015 and monitored nest activities.
- Detected 5 birds (one pair and 3 females) nine months post release.
- Installed 20 additional artificial cavities at 5 cluster sites, with 4 cavities per site, to prepare for fall 2016 translocations.

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Restore Habitat for Seabeach Amaranth along the Atlantic Coast from South Carolina to Massachusets

Once found on sandy ocean beaches from South Carolina to Massachusetts, seabeach amaranth has disappeared from most of its historical range. Over the past 13 years, numbers for this annual plant species have dropped by 99.5%: from over 200,000 plants to only 1,320 plants in 2013. Seabeach amaranth is vulnerable to climate change, sea level rise, development of beachfront property and increased beach use. This project will establish self-sustaining populations on 6 National Wildlife Refuges in natural areas that are less vulnerable to man-made threats and more resilient to climate change and sea level rise. The project team:

- Has collected over 3800 seeds from four sites.
- Placed cleaned and processed seeds into short term dry room storage at the North Carolina Botanical Garden.
- Will grow approximately 50 plants to increase seed stock.
- Is testing techniques in 5 seed plots at 2 NC beaches to maximize success for restoration.

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